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Test and Evaluation for the “On-Demand” World

Steven J. Hutchison, Ph.D.
Test and Evaluation Executive,
Defense Information Systems Agency, Arlington, Virginia

Defense Information Systems Agency (DISA), is a Combat Support Agency dedicated to providing our nation's leaders and warfighters the best information technology solutions needed to accomplish the mission. We provision, operate, and secure the Global Information Grid (GIG) in support of net-centric operations. DISA is also an acquisition organization with a large test and evaluation (T&E) workforce that specializes in T&E for information technologies (IT).

Our vision in DISA T&E is to be a center of excellence for advancing the art and science of T&E for IT. Toward that vision, we have established four goals:

- Goal 1: Support the warfighter—provide responsive, relevant, value-added test and evaluation services.
- Goal 2: Be the premier tester and evaluator of Joint net-centric warfighting capabilities in the Department of Defense (DoD).
- Goal 3: Team for maximum efficiency. Empower our teams to design and execute robust test plans and provide objective assessments to decision makers.
- Goal 4: Develop and retain a highly qualified workforce.

Bottom line—My job is to help our programs field enhanced IT capabilities to our warfighters. I do that by ensuring that our T&E organizations are engaged with the programs to help them find and fix problems early, stay objective in their assessments, and invest in the right technologies that will keep us relevant in the fast-paced, ever-changing, “on-demand” world of IT.

In DISA, we are trying to shift acquisition and testing of IT to be more responsive to warfighters needs—our first goal. The shift that I'm addressing is highlighted in the current strategic planning guidance (SPG): “Evolve planning, determination of needed capabilities, acquisition, test and evaluation, programming and training toward ‘demand driven’ processes

focused increasingly on developing and testing joint capability portfolios to meet Combatant Commander preferred approaches.” Demand-driven processes, Joint capability portfolios, and combatant commander approaches all signal change ...and remind us of who we work for—the warfighter.

We are expending a lot of energy and intellectual capital on finding ways to improve our acquisition and T&E processes. Many of you are aware that DISA is the sponsor of a National Academies of Sciences study on improving processes for acquiring and testing IT in the DoD. We should have their recommendations in November. We've also engaged the Business Executives for

National Security (BENS) and the National Defense Industrial Association (NDIA) to hear their recommendations. Recently, a Defense Science Board completed a study on IT acquisition and made recommendations to institute a new acquisition model geared specifically to IT. One common theme emerging from these studies is that the DoD should adopt agile development and test practices. Nowhere is the “on-demand” requirement more prevalent than in IT—whether it's bandwidth, spectrum, storage capacity, intrusion protection, or computing, we expect our IT capabilities to provide what we need, when we need them. To support the warfighter with relevant IT today requires us to shift how we do business to support test on demand.

DISA is an acquisition organization for Joint capabilities, likewise T&E of Joint capabilities is an essential part of our mission in DISA; hence, our second goal. Our test organizations provide full spectrum T&E services (developmental, operational, interoperability, and security T&E) across all of the Joint capability areas. It is imperative that we get this right. The SPG speaks to “developing and testing joint capability portfolios,” and I would like to emphasize ‘joint’ in that statement because, simply put, the processes we have in place today are not designed to



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support Joint programs. To accomplish the guidance, we are going to need to formalize processes for obtaining Joint troops as test units, approved Joint mission threads, and relevant Joint scenarios. We are working with Joint Forces Command to improve these processes for Joint testers.

In the world of IT, agility is the name of the game. It frustrates me when we have capability improvements ready to go but can't get them fielded. I believe this has led our warfighting units to circumvent the acquisition process and buy commercial capabilities. Think about that, because it is its own form of acquisition process: the commanders in the field weigh the risks and make a decision—speed is important, costs low, risks manageable, capabilities improve. Our DoD acquisition process should do the same thing, and our T&E organizations will have to be better, faster, and more mission-focused than ever before. It is essential that we combine efforts and work as a team to streamline test processes and eliminate redundancy. Our third goal is to team for maximum efficiency, and empower the capability test teams to design, execute, and report results of T&E activities.

The commercial sector succeeds with agile methods due to teamwork and empowerment—the opposite of our DoD acquisition process today! Fortunately, our leaders have recognized the value of teamwork in achieving greater efficiency. Almost 2 years ago, in December 2007, the Director, Operational Test and Evaluation, the Honorable Dr. Charles McQueary, and then Undersecretary of Defense for Acquisition, Technology, and Logistics, the Honorable John J. Young, Jr., signed into policy that T&E “shall be integrated and seamless throughout the system life-cycle.” Integrated testing, the theme of this issue of *The ITEA Journal*, is all about teamwork.

In the IT world, we have a lot of decision makers to satisfy to get a capability fielded; therefore, our test teams should be composed of members representing all of their interests. There's a milestone decision authority, an interoperability certifier, and a designated approving authority who certifies information assurance. A typical integrated master schedule will have developmental test events, a security test event, and an operational test event, all conducted by different organizations and spanning a period of several months. An integrated test model for IT could bring all test activities together and cut that time in half or more. I think this will yield considerable cost savings, but more important, if testers work as a team, we can produce a more complete evaluation to give the decision makers.

Integrated testing is essential to the transformation of T&E to the “on demand” world. For programs following agile processes, T&E has to be on demand.

It means being able to assemble the right team of skilled testers, translate user stories into an effective test design, use test automation as much as possible, analyze the data, and share the results—all in a period of days, not weeks or months. It is essential that our testers understand the Joint environment and be able to assemble the right components quickly and at low cost. To test capabilities such as those DISA is developing, we need an on-demand Joint test environment with the means to find the right set of test assets, schedule their use, collect data, and then release the asset when completed. Those who oversee these agile programs have to adjust their processes accordingly, which means that governance bodies such as the overarching integrated process teams (O IPTs) have to be able to work within the agile framework.

Last, our fourth goal is the development and retention of the workforce. The SPG highlights training as part of the evolution toward demand-driven processes. We have a professional acquisition workforce and a quality acquisition university to support them. However, IT acquisition is different; we should not expect our program managers and testers to be proficient in IT acquisition and T&E when we train them through a program of instruction based for the most part on weapons platforms. As we evolve training, let's address the education of our IT acquisition and T&E workforce. This is one of many initiatives DISA is pursuing.

The challenges for the T&E community are great but not insurmountable. Our job is to set the conditions for success. At DISA we're taking on all of these challenges, but we know that we don't have all of the answers. We need your help to get the good ideas turned into action. Let's work together to develop the processes, methods, training, and infrastructure to ensure we “test like we fight.” We look forward to working with all of you to transform acquisition and testing to the on-demand world. □

STEVEN J. HUTCHISON, Ph.D., a member of the Senior Executive Service, is the Test and Evaluation Executive for the Defense Information Systems Agency. He is responsible for developing and enforcing T&E policy and procedures, representing DISA to the DoD T&E community, and providing direct support to DISA programs for T&E of IT capabilities. Prior to his arrival at DISA, Dr. Hutchison served in the office of the Director, Operational Test and Evaluation (DOT&E), Office of the Secretary of Defense, as a net-centric warfare systems analyst. While in DOT&E, he had oversight responsibilities for several of the major warfighting

information systems, including the Global Command and Control System-Joint, the Service variants of the Distributed Common Ground/Surface System, and the Net Enabled Command Capability. Dr. Hutchison also

served for 6 years in the Army Test and Evaluation Command as an evaluation officer and later as the Assistant Technical Director. E-mail: Steven.Hutchison@disa.mil



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